

*Note on the Star DM + 27° 725.* By A. M. W. Downing,  
M.A., D.Sc.

This star was selected as one of the *Nautical Almanac* zodiacal stars on the authority of the Harvard Photometry, where it appears as No. 893 of the General Catalogue, with magnitude 6.3. The magnitude 5.9 assigned to the star in the DM is a misprint for 9.5, as is explained in *B. B.* vi. p. 378.\* And as a tolerably comprehensive search failed to find the star in any modern catalogue it appears probable that the Harvard observations, assigned to this star, really refer to some other object. This view is confirmed by the evidence afforded by a photographic plate which the Astronomer Royal most kindly had taken for the express purpose of identifying the star. It was found, on examining the plate, that the object nearest the assigned place was fainter than the 9th mag. Professor Pickering has also been so good as to furnish information bearing on the subject derived from photographs taken on 1890 December 29, 1892 January 8 and December 28, and 1893 October 5. On these plates the star appears to be of about the 10th mag., and shows no evidence of variation. It may be concluded, therefore, that the mag. 9.5 assigned to this star by the Bonn observers is correct, and that the Harvard measures refer to some other object.

That the object measured at Harvard College was not the neighbouring star DM + 27° 723 appears probable from the results of measures of the latter object which Professor Pickering has kindly communicated. The mean of four measures gives 6.6 as the magnitude of this star.

The star DM + 27° 725 ought not, therefore, to have been included in the *Nautical Almanac* list of zodiacal stars (which is restricted to stars of magnitude not fainter than 6.5), and should be struck out wherever it appears in the Occultation Section of the *Nautical Almanacs* for 1896 and 1897, as well as in the Catalogue of Zodiacal Stars printed in the appendix to the last-named volume.

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\* Mr. Chandler also points this out in *Ast. Nach.* No. 3214.

*On the Spectra of Certain Stars* (Second communication).

By the Rev. T. E. Espin, M.A.

(1) DM + 49° 41. R.A. 0<sup>h</sup> 12<sup>m</sup>. 2. Decl. + 49° 44' (1900). Mag. 9.0. The spectrum of this star was found to be IV. type at Harvard. As this star has not been observed visually, as far as I am aware, it was looked up Dec. 11, and found to be fine red, Spectrum IV.!! The bands are very well seen. Mag. 8.6.

(2) Anonymous. R.A. 0<sup>h</sup> 16<sup>m</sup>. 8. Decl. + 58° 36' (1900). A star found October 8, not in Argelander. The colour is fine red, and the spectrum banded, but too faint to be sure whether it is type III. or type IV. As it was not in Argelander, and not recorded in previous sweeps, it has been watched for variation. The following are the observations of it:—

October 8, Mag. 10.0.

October 11, Mag. 9.7.

October 19, Mag. 9.7.

December 30, Mag. 9.5.

The star may therefore have brightened slightly.

(3) Anonymous. R.A. 2<sup>h</sup> 10<sup>m</sup>. 0. Decl. + 58° 3' (1900). Found December 11. Not in Argelander. Mag. 9.0. Pale red. Spectrum III. type. The comparison of photographs 1893 January 20, 26, December 12, shows no variation.

(4) *T Persei*. R.A. 2<sup>h</sup> 12<sup>m</sup>. 2. Decl. + 58° 59' (1900). As this star has not been observed with the spectroscope, it was set for on December 11, and found to be mag. 8.6. Colour red. Spectrum III.!!! The bands are large, but not deep. The spectrum is similar to many stars in this region. I have found no part of the heavens where so many red stars are congregated. If a circle with about 1° radius is drawn with centre R.A. 2<sup>h</sup> 10<sup>m</sup>, Decl. 57° 25' (1855), it will include fourteen stars of type III.

(5) DM + 56° 731. R.A. 2<sup>h</sup> 44<sup>m</sup>. 8. Decl. + 56° 32' (1900). Mag. 9.5. This is a star of type V. discovered by photography at Harvard. I have observed it on several occasions, and it always appeared to have a monochromatic spectrum. On December 11 I reobserved it. There is a very faint continuous spectrum. Calling the total light of the star 10, the bright line at or near F would equal 9, the continuous spectrum 1. There is also an inequality in the spectrum, probably the usual one at 540. The bright line is remarkably vivid, and appears to project beyond the spectrum. Whether this is due to irradiation or actual projection I am unable to tell.

(6) DM + 61° 734. R.A. 4<sup>h</sup> 40<sup>m</sup>. 1. Decl. + 61° 0' (1900). Mag. 7.7. This star was discovered by Mr. Gage with his 15-inch reflector at Wolsingham. He informed me that it had a fine III.-type spectrum. It was observed by me 1894 Jan. 7, and found to be mag. 7.5. Colour orange red. Spectrum